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Patent claims

- 1. passive microphone for wirelessly transmitting sound information to/a receiving unit (6), comprising
- (5) for receiving electromagnetic an antenna excitation energy from the receiving unit (6) and for wirelessly transmitting electrical signals to the receiving unit (6) and
- a piezoelectric device (4),
 - which is connected to the antenna in such a manner that electromagnetic excitation the from the antenna (5) energy received transmitted to the piezoelectric device (4) and stored by means of the piezoelectric device (4).
 - whit (4) being designed in the piezoelectrid such a manner that detected acoustic signals are converted into electrical signals bearing sound information.
- The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6)claimed in claim 1, characterized in that the device (4) temporarily stores the piezoelectric excitation energy from the receiving unit (6) in the form of mechanical vibrations.
- The passive | microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 1 or 2, characterized in that the piezoelectric devide (4) is used for storing the excitation energy, for detecting electromagnetic

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acoustic signals and for converting detected acoustic signals into electrica1/ signals bearing information.

nizrophone (1) 4. The for wirelessly passive/ transmitting sound information to a receiving unit (6) as claimed in one officiaims 1 to 3, characterized in that the piezoelectric device (4) essentially consists of a piezoelectrid diaphragm (8) having a surface acoustic wave resognant pattern.

- 5. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 4, characterized in that the diaphragm (8) consists of crystal.
- 6. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 4, characterized in that the diaphragm (8) consists of lithiumniobate.
- 7. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 3, characterized in that the piezoelectric device (4) essentially consists of a surface acoustic wave delay line.
- 8. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 1 or 2, characterized in that the piezoelectric device (4) comprises a device (2) for detecting acoustic signals and a device (3) for storing the electromagnetic excitation energy and for converting detected acoustic signals into electrical signals bearing sound information.
- 9. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 8, characterized in that the device (2) for detecting acoustic signals essentially consists of a diaphragm.

- 10. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in claim 9, characterized in that the diaphragm consists of metal.
- passive microphone (1) for wirelessly 11. The transmitting sound information to a receiving unit (6) as claimed in claim 8, 9 dr 10, characterized in that for storing the electromagnetic device (3) excitation energy and for converting detected acoustic into electrical signals bearing signals information essentially consists of a diaphragm having a surface acoustic wave resonant structure.
- $mid_{\mathbf{f}}$ phone (1) for wirelessly The passive transmitting sound information to a receiving unit (6) as claimed in claim 8, \$ or 10, characterized in that (3) for storing the electromagnetic the device excitation energy and for converting detected acoustic electr**i**cal into signals bearing information essentially consists of a surface acoustic wave delay line.
- passive microphone (1) for wirelessly 13. The transmitting sound information to a receiving unit (6) on**k** of the preceding claims, claimed in characterized in that one or a further device detecting acoustic signals is provided and is arranged in such a manner that the detected acoustic signals are differentially converted into electrical signals bearing sound information.

- 14. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 13, characterized in that a device for compensating for disturbance variables is provided.
- 15. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 14, characterized in that the piezoelectric device (4) receives the electromagnetic excitation energy from the receiving unit in the form of short high-frequency signals.
- passive mi/crophone (1)for transmitting sound information to a receiving unit (6) as claimed in one of chaims 1 to 15, characterized in receives piezoelect#ic device (4) that the electromagnetic excitation energy from the receiving periodically the of repeated unit in form high-frequency signals.
- 17. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 16, characterized in that the piezoelectric device (4) receives the electromagnetic excitation energy from the receiving unit in the form of excitation signals having a large bandwidth-time product.
- 18. The passive microphone (1) for wirelessly transmitting sound information to a receiving unit (6) as claimed in one of claims 1 to 14, characterized in that the piezoelectric device (4) receives

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the electromagnetic excitation energy from the receiving unit in the form of a continuous frequency-modulated excitation signal.